

What is claimed is:

1. An apparatus for storing an electronic money, comprising:

a portable terminal having an integrally formed electronic money card which

5 is capable of storing a balance of the same using a radio communication or a storing unit.

2. The apparatus of claim 1, wherein said electronic money card includes

means for using a personal information.

10 3. An apparatus for storing an electronic money, comprising:

a radio signal receiving block for receiving a radio signal and judging whether the receives signal corresponds to a general information or a balance storing information;

15 a memory block for storing a storing amount, a content and a certification information;

a computation logic block for storing a balance storing data extracted from the balance storing information into the memory block when a balance storing information transmitted from the radio signal receiving block is a proper signal; and

20 a non-contact block for storing a balance storing amount into the memory block using a card storing unit and reading a balance storing amount of the memory block when payling the money.

25 4. The apparatus of claim 3, wherein said computation logic block is

designed so that a certain amount data is stored into the memory block only when

first and second balance storing information are all received from the radio signal receiving block.

5. The apparatus of claim 3, wherein said radio signal receiving block

5 includes:

a key input unit for inputting a certain key signal;

10 a display unit for displaying a general information or a balance storing information as a character or digit;

15 a control means for decrypting an output signal of the high frequency processing unit, transmitting to the display unit, transmitting to the computation block in the case that the information is the balance storing information or is a balance storing content check key signal from the key input unit, receiving a balance storing content information and displaying the same on the display unit; and

20 a tone signal generator for generating a call sound or an error sound during the balance storing operation by the control means.

6. The apparatus of claim 5, wherein said control means is designed to

check whether there is a certain pattern signal in an output signal of the high frequency processing unit, judge whether the information corresponds to a common radio information or a balance storing information, format the information into a certain format corresponding to the computation logic block when there is a certain pattern signal, and the balance storing information is judged, judge whether there is an error signal, and transmit the formatted information to the computation logic block when there is not a transmission error.

7. The apparatus of claim 3, wherein said non-contact block includes:
a modulation and demodulation unit for performing a signal transmitting and receiving operation with a card storing unit or a card reader; and
a non-contact computation unit for storing a balance storing data into the
5 memory block at the modulation and demodulation unit in the case of the balance storing operation, reading the balance storing data stored in the memory block in the case of the payment and transmitting the read data to the modulation and demodulation.

10 8. The apparatus of claim 3, wherein said computation logic block includes:

control means for summing the balance of the memory block and the balance storing amount in the case that various certification information extracted during the balance storing operation and the previously stored various certification information are coincided for thereby judging as a proper subscriber, storing the balance storing data into the memory block when the summed amount is below a certain amount and transmitting a data to a radio signal receiving block in order to generate an error and error sound when the summed amount exceeds a certain amount; and
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20 a radio interface unit for implementing a data transmitting and receiving operation between the radio signal receiving block and the control means.

25 9. The apparatus of claim 8, wherein said control means is designed to decrypt an output signal of the radio signal receiving block, extract a certification information in the case of the service stop signal, disables the memory block when the extracted certification information is coincided with the previously stored

certification information, and stop the service of the card.

10. An apparatus for storing an electronic money, comprising:

5 a radio signal receiving block for receiving a radio signal, judging whether the received radio signal corresponds to a general information or a balance storing information, a memory block for storing a storing amount, a content, and a certification information;

10 a modulation and demodulation unit for implementing a signal transmitting and receiving operation with a card storing unit; and

15 a computation logic block for storing a balance storing data into the memory block when various certification information extracted from a balance storing information transmitted from the radio signal receiving block during the balance storing operation are judged as a proper information, storing the balance storing data of the modulation and demodulation unit into the memory block and reading the amount data as much as the amount confirmed by the modulation and demodulation unit during the payment operation from the memory block and paying via the modulation and demodulation unit.

11. The apparatus of claim 10, wherein said computation logic block is

20 designed to receive first and second balance storing information from the radio signal receiving block and store the amount data into the memory block only when the balance storing information are all proper.

12. The apparatus of claim 10, wherein said computation logic block is

25 designed to stop the service of the terminal when a proper first balance storing

information is received from the radio signal receiving block.

13. The apparatus of claim 12, wherein said computation logic block is designed to release a temporary service stop state of the terminal when a balance storing cancellation information is received from the radio signal receiving block during the balance storing operation.

14. The apparatus of claim 10, wherein said computation logic block includes:

10 a control means for decrypting a balance storing information based on a radio transmission method, storing the balance storing data into the memory block in the case of the proper subscriber, storing the balance storing data based on a non-contact method, reading the amount data as much as the amount confirmed during the payment and transmitting via the non-contact interface unit;

15 a radio interface unit for implementing a data transmitting and receiving operation with the control means; and

a non-contact interface unit for implementing a signal transmitting and receiving operation between the modulation and demodulation unit and the control means.

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15. The apparatus of claim 14, wherein said control means is designed to disable the operation of the memory block in the case that an output signal from the radio signal receiving block is judged to be a proper service stop signal, and stop the operation of the modulation and demodulation unit for thereby stopping the service of the card.

16. In an apparatus engaged with a portable terminal and an electronic money card, an apparatus for storing an electronic money, comprising:

a high frequency processing means for receiving a radio signal and converting the received radio signal into a digital signal;

5 a modulation and demodulation means for implementing a signal transmitting and receiving operation with a card storing unit or a card reader;

a memory block for storing a storing amount, a content and a certification information; and

10 a control means for receiving an output signal from the high frequency processing means, storing the balance storing data into the memory block when various certification information extracted from the amount information are coincided with the previously stored various certification information in the case of the balance storing information, checking the balance storing data inputted from the modulation and demodulation, storing into the memory block, reading a certain amount of money 15 as much as the amount confirmed by the modulation and demodulation during the payment operation and then paying the money.

17. In a method for storing an electronic money using a radio communication or a card storing unit, a method for storing an electronic money comprising:

20 a first step for judging whether a received radio signal corresponds to a balance storing information;

a second step for extracting various certification information in the case of the balance storing information, and judging whether a subscriber is a proper subscriber;

25 and

a third step for storing the amount data extracted from the balance storing information in the case of the proper subscriber.

18. The method of claim 17, wherein in said first step for judging the 5 balance storing information, the information is judged to be a balance storing information when there is a certain pattern signal in the received radio signal.

19. The method of claim 17, wherein said second step for comparing various certification information includes:

10 a first step for extracting a radio signal receiving block serial number from the balance storing information and judging whether the extracted serial number is coincided with the previously stored serial number;

15 a second step for reading a counter value contained in the balance storing information in the case that the serial numbers are coincided and judging whether the read counter value is coincided with a counter value of a function for the previously stored encryption;

20 a third step for judging whether the serial key value outputted via the encryption process in which the counter values are coincided is coincided with the previously stored key value; and

20 a fourth step for judging that a subscriber is a proper subscriber when the key values are coincided.

20. The method of claim 19, wherein said decryption process of the balance storing information is implemented when the counter value extracted from 25 the balance storing information is coincided with the counter value for the previously

stored decryption.

21. The method of claim 17, wherein said third step for storing an amount data includes:

5 a first step for summing the current amount and a storing amount in the case of the proper subscriber and judging whether the summed amount is below a certain amount;

10 a second step for judging whether the summed amount obtained by summing the current balance storing amount and the recent radio balance storing amount is coincided with the summed amount contained in the balance storing information based on the radio transmission method in the case that the summed amount is below a certain amount;

15 a third step for storing the balance storing data in the case of the coincidence of the summed amount; and

20 a fourth step for judging the signal as a balance storing error in the case that the summed amount is greater than a certain amount or the summed amount is not coincided.

22. The method of claim 17, further comprising a step for displaying the current storing amount and the storing amount contents when the balance storing data is stored.

23. In a method for changing an information of an electronic money card based on a radio communication, a method for storing an electronic money comprising:

a first step for judging whether a card service stop or release information is received in the case that there is not a balance storing information;

a second step for extracting a certification information and comparing whether the extracted information is coincided with the previously stored certification information when judging the card service stop or release information; and

a third step for releasing a card service stop when the certification information is coincided.

24. The method of claim 23, wherein said certification information of the second step is a certain variable transmitted from the radio communication service provider.

25. The method of claim 24, wherein said variable is a serial number of the radio signal receiving block.

26. In a method for storing an electronic money using a radio communication or storing unit, a method for storing an electronic money, comprising:

a first step for judging whether a received radio signal corresponds to a personal information update information or not;

a second step for extracting a certain variable in the case of the personal information update information and comparing the extracted variable with a certain variable transmitted during the personal information update; and

a third step for updating a personal information when the currently transmitted variable is greater than the previously transmitted variable.

27. In a method for storing an electronic money using a radio communication or a storing unit, a method for storing an electronic money comprising:

a first step or judging a received balance storing information corresponds to

5 a first balance storing information;

a second step for judging a proper signal by performing a certification of the first balance storing information in the case of the first balance storing information;

a third step for setting a temporary service stop state in the case of the proper signal and waiting a receiving of a second balance storing information;

10 a fourth step for performing a certification of the second balance storing information when the second balance storing information is received and judging a proper signal; and

15 a fifth step for storing a request amount in the case of the proper signal and implementing an available state of the card.

28. The method of claim 27, further comprising a step for completing a balance storing operation when a proper balance storing cancellation information is received after the first balance storing information is received.

20 29. The method of claim 27, wherein said second certification step includes:

a first step for extracting the storing request amount from the first balance storing information, summing the thusly extracted amount and the balance, and judging whether the summed amount is greater than the storing limit amount;

25 a second step for encrypting the value as a certain key value when the

summed amount is the same as or is smaller than the storing limit amount and judging whether the value is coincided with the value extracted from the first balance storing information; and

5 a third step for encrypting the first balance storing information as a certain key

value when the encrypted value is coincided with the extracted value and changing to a decimal value and displaying the decimal value.

10 30. The method of claim 29, wherein said third encryption step is performed using a certain key value provided from the first and second certification providers.

15 31. The method of claim 27, wherein said fourth step certification step includes:

a first step for formatting the data contained in the second balance storing information and encrypting using a certain key value of the certification provider;

20 a second step for judging whether the encrypted value is coincided with the encrypted value contained in the second balance storing information; and

a third step for judging the signal as a proper signal in the case that the encrypted values are coincided.

25 32. The method of claim 31, wherein said certain key value is provided from a second certification provided, not from a radio communication service provider.

33. The method of claim 30, wherein said certain key value is previously

stored.

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